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LICE, MITES AND CLEANLINESS

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THIS BULLETIN has been written briefly and in simple terms for the beginner, and especially for members of the Boys' and Girls' Poultry Clubs. For additional and more complete information on the subject the reader should ask for Farmers' Bulletin 801, "Mites and Lice on Poultry." This may be obtained in many cases from club leaders or will be supplied free of charge on application to the U. S. Department of Agriculture, Washington, D. C.

Contribution from the Bureau of Animal Industry
JOHN R. MOHLER, Chief
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LICE, MITES, AND CLEANLINESS.

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LICE and mites are common pests that usually can be found wherever poultry is kept. They are a source of continuous annoyance, and if present in large numbers cause slow or stunted growth as well as death in young chicks, and reduce flesh and egg production in mature birds. For this reason every boy and girl must keep the fowls as well as the poultry houses, nests, brood coops, etc., free from lice, mites, and other vermin, if he or she is to succeed with poultry or poultry-club work.

KINDS OF LICE.

More than 40 distinct species of lice infest the different varieties of domestic poultry. Seven species are commonly found on hens and chickens, 4 or 5 on pigeons, 2 or 3 each on ducks and geese, 3 on turkeys, and several each on guinea fowl and peafowl. The kinds most common on hens and chickens, however, are usually classed in three groups, known as body lice, head lice, and feather lice. They intermingle to a considerable extent, and their habits are very similar, but all are a pest and an annoyance to the fowls and should be destroyed.

[1] Much of the information given in this bulletin is drawn from Farmers' Bulletin 801, "Mites and Lice on Poultry," by F. C. Bishopp and H. P. Wood, of the Bureau of Entomology.

These different species of lice never leave the bodies or feathers of the fowls. They differ somewhat in size and appearance, but all are fitted with peculiarly arranged legs which permit them to move about rapidly through the feathers. They have sharp, strong, biting mouths, but unlike the red and gray mites are not fitted for sucking blood; instead, they feed on portions of the feathers and on scales from the skin.

BODY LICE.

The body louse is much larger than the red or gray mite, and is straw or pale yellow in color. It lives and breeds entirely on the body of the fowl, centering its activities on those sections that are not closely feathered, although it may sometimes be found on the head, neck, or other parts of the body. It is usually found in greatest numbers under the wings and around the vent, and oftentimes the skin of the fowl where the lice are thickest will appear red and rough, and quite often scabs and blood clots may be seen. These are evidence of long irritation, preventing normal growth and development in chicks, and causing sickness and loss of vigor in mature fowls.

Body lice deposit their eggs in clusters on the web part of the feather close to the quill. On mature fowls they are to be found in greatest numbers on the small, short feathers below the vent. On chicks the eggs are often deposited on the soft, downy feathers about the head and throat. The eggs hatch in about a week, and the lice reach their full size in about 20 days; therefore, if the lice are not killed, the fowls become alive with them in a very short time.

FEATHER LICE.

Feather lice are the species most commonly found on poultry, but are probably the least important, for the reason that they stay on the feathers the greater part of the time and feed on the feathers and scales along the quill rather than on the skin or body of the fowl. They are smaller than the body lice but otherwise resemble them somewhat in appearance. They can be detected easily, however, upon parting the feathers on the back or breast, where usually they can be found clinging to the web and shaft of the feather. Feather lice infest mature fowls and are seldom found on young chicks.

HOW TO GET RID OF BODY AND FEATHER LICE.

Inasmuch as poultry lice stay on the fowls nearly all the time, the only effective treatments are those which are applied directly to the birds.

Sodium fluorid, a powder which can be purchased at most drug stores, is the most effective remedy, being exceedingly poisonous to all

kinds of poultry lice. It should be applied by placing a small amount of the powder (as much as can be held between the thumb and finger) among the feathers next to the skin on the head, neck, back, under the wings, on the breast, below the vent, and at the base of the tail.

Not more than 12 small pinches should be put on one fowl at a time, as too much is injurious. One pound of powdered sodium fluorid applied in this manner will treat 100 fowls and is very effective. It is usually advisable to treat fowls in the spring just before the brooding season, which will help to keep the young chicks free from vermin. Sodium fluorid if inhaled is very irritating to either fowls or human beings. If too much is inhaled by fowls or chicks it will be fatal. Therefore, precaution should be taken in treating fowls to see that it is not inhaled or allowed to get into any cuts or wounds in the flesh.

Blue ointment is another effective remedy. In using it apply a small portion (a piece about the size of a pea) with the fingers around the vent only of the fowl, and not on the body or under the wings. Care should be taken not to get any of the ointment into the vent, as it is poisonous and injurious. If mercurial ointment (a similar preparation) is used instead of blue ointment, it should be diluted with one-half the quantity of vaseline or lard.

Lice powders of various kinds are also on the market (they can usually be purchased at stores and poultry-supply houses) and may be used oftentimes with good results. These lice powders should be dusted well into the feathers (see illustration on front cover), working the powder in with the fingers, especially under the wings and around the vent, to make sure it reaches the skin. If all the lice are not killed by the first treatment the fowls should be dusted again in a week or ten days and as often afterwards as found necessary.

HEAD LICE.

Head lice, so called because of their habits, are found on the heads of both chicks and mature fowls, but most often on young chicks. They are longer and more slender than body lice, and dark brown in color. They are almost always in greatest number on the top of the head, around the ears, and underneath the bill, and are usually found with their heads close against the skin of the chicks, the body extending outward. Head lice confine their attacks principally to the head of the chick or fowl and are very injurious. They breed rapidly and pass from the mother hen to young chicks and from one chick to another, which makes it necessary to watch the flock carefully in order to keep the chickens free from these pests.

To kill head lice on chicks, a very small portion of melted lard or vaseline should be applied to the top of the head, under the wings,

and around the vent. Care should be taken not to get too much grease on the chick, as that might prove fatal. These head lice are very injurious and chicks should be examined often for them and be treated at once whenever the lice are found.

POULTRY MITES.

Of all parasites affecting poultry it is probable that ordinary poultry mites are the most troublesome and destructive unless kept under control. Unlike the lice, poultry mites are bloodsucking parasites and live entirely on the blood of the fowl. They are very small and are gray in color. However, after they have been on the body of the fowl and filled themselves with blood they look red and are called red mites. When they are not filled with blood they look gray and are called gray mites. They do not stay on the fowl's body all the time, like lice; but during the day hide away in cracks and crevices, behind boards that are near the roosts, in the cracks of brood coops, and in other places. At night when the fowls and chicks go to roost the mites come out of their hiding places, crawl on to the birds, and suck the blood from their bodies. The irritation and loss of blood cause mature fowls to become pale in comb and wattles and poor in flesh; sitting hens may desert their nests and spoil their eggs, if they do not die on the nests, and chickens become weak and droopy and in many instances die from the attacks.

These mites are very small and sometimes hide themselves away so completely that the boy or girl may think the houses, coops, etc., are free from them unless a careful search is made. Knowing their hiding places, however, every club member should look for them very carefully every ten days or two weeks, especially during the summer, when they breed most rapidly, and if any signs of their presence are found, begin at once to get rid of them.

Since poultry mites hide away in cracks and crevices during the day, the first thing that should be done to get rid of them is to give the poultry houses, roosts, nests, etc., a good cleaning. After the cleaning, spray thoroughly with kerosene, crude oil, or some heavy coal-tar preparation, making sure that the spray reaches all the cracks and crevices and every other place where the mites may be hiding. The heavy coal-tar preparations are most effective and last longest. They can be purchased at most drug stores, with full directions for mixing and use. It is necessary to spray thoroughly and often, especially during warm weather, if the mites are to be kept from annoying the fowls.

"STICK-TIGHT" FLEAS.

In many of the Southern and Southwestern States fowls and chicks are often infested by a species of flea commonly known as the "stick-tight" flea, taking the name from its habit of sticking to one place on the bird instead of moving about like lice and mites. They are usually found in clusters on the comb and wattles and around the eyes. Chicks when infested often die quickly. Old fowls, while usually stronger and more resistant, will cease laying, or nearly so, and sometimes die as a result of the attacks of these fleas.

"Stick-tight" fleas breed in cracks and crevices of the floors of brood coops and poultry houses, also in dry animal or vegetable refuse,

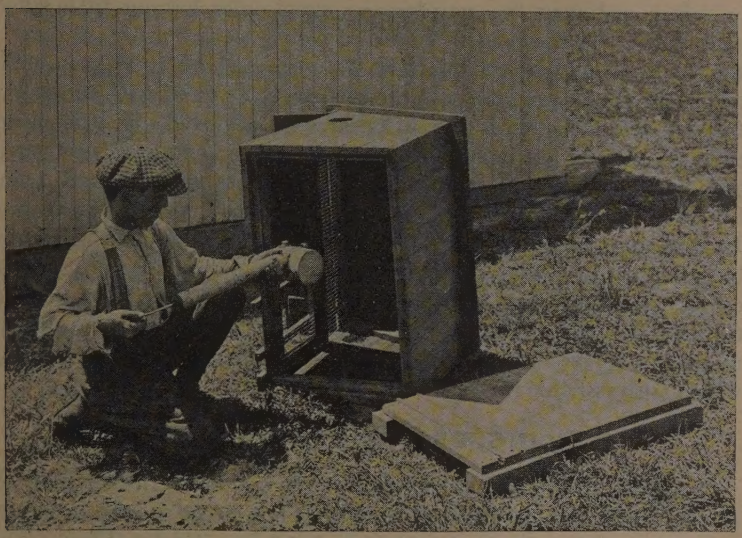

FIG. 1.—Boy club member spraying his brood coop to kill the poultry mites.

but will not breed in damp or wet places. Therefore to get rid of them it is necessary to clean and spray the houses and runs thoroughly as well as to treat the birds. Grease the comb and wattles of the fowls and chicks with a preparation of kerosene and lard (1 part kerosene to 3 parts of lard), being very careful not to use too much of the mixture or get any of it in the birds' eyes or on other places where it is not necessary, as it may cause injury if used too freely. Clean and spray the coops and houses thoroughly the same as for poultry mites; also wet or spray the yards or runs, especially any dry soil about the poultry houses, such as dirt floors or ground underneath a board floor, with a solution of salt and water, which helps to keep the ground moist and prevents the fleas from breeding.

POULTRY TICKS, OR "BLUE BUGS."

Poultry ticks, or "blue bugs," are common in the Southern States and are very injurious to poultry and pigeons. Their habits are very similar to those of the little red and gray mites in that the adult bugs crawl on the bodies of the birds and feed at night only and during the day hide in cracks and crevices about the poultry house. The young ticks hatch and remain on the bodies of the fowls for from 3 to 10 days, when they leave. After that, they attack the chicks and fowls only when they have gone to roost at night. These "blue bugs" are about the size of a bedbug and much more harmful than either lice or mites.

Ticks, or "blue bugs," are much harder to kill than either lice or mites, ordinary lice powders or insecticides having little effect upon them. If the poultry house or coops become infested, remove the birds to temporary quarters for a period of 10 days, during which time the young ticks on the birds become filled with blood and fall off, when the birds should be at once removed. In the meantime thoroughly clean the poultry house by removing all nest boxes and nesting material, roosts, and other loose objects, and spray liberally with crude petroleum or kerosene or wood preservative. In spraying, make sure that the spray reaches all places where the bugs may be in hiding. Brood coops or temporary quarters, such as crates, etc., that may be infested, may be disinfected by scalding thoroughly with boiling water. For additional information the reader is referred to Farmers' Bulletin 1070, "The Fowl Tick," which treats of this pest more fully.

CHIGGERS, OR "RED BUGS."

Chiggers, "red bugs," or harvest mites are also quite troublesome in the Southern and Central States. They breed in the tall grass and are usually most plentiful in low-lying land. They attack fowls and chicks that are on range, attaching to the skin, causing an intense itching. Abscesses a third of an inch in diameter, surrounded by an area of inflammation, often may be found where clusters of these "red bugs" are feeding, and as a result the birds refuse to eat, become weak and droopy and soon die from hunger and exhaustion.

Fowls or chicks that have been attacked by chiggers, or "red bugs," if discovered before abscesses are formed on the skin, should have the inflamed parts treated with sulphur ointment, or a mixture of 1 part kerosene with 3 parts melted lard. If pus has already formed in the sore, remove the scab and wash the sore with a 4 per cent solution of carbolic acid and water. In sections where "red bugs" are plentiful, if fowls and chicks have free range, the grass

should be kept short to prevent the bugs from breeding; also dust the birds occasionally with flowers of sulphur, rubbing it well into the feathers. Club members should also hatch their chickens as early in the season as possible, so that when the hot weather comes on, when these bugs are most troublesome, the chicks will be old enough to resist their attacks.

DUST BATH.

It is always advisable to provide a good dust bath in which the fowls and chickens can dust themselves whenever they wish, as in doing so they help to keep the lice under control and in some instances almost free themselves from them.

WHITEWASH.

Whitewash is also effective in killing mites and other vermin and may be used freely in spraying the houses, brood coops, roosts, etc. In badly infested places it is advisable to clean and spray, as already described, and in about 48 hours follow with a good spray or coating of whitewash. An effective whitewash for this purpose is made as follows:

Slake half a peck of lime and dilute it with 20 gallons of water; add 1 pound of salt previously dissolved in water; to this mixture add 2 quarts of crude carbolic acid. Apply with a spray pump or brush. This mixture if properly put on not only kills the mites but destroys all eggs, and will make the house, or any building where it is used, fresh and clean.

CLEANLINESS.

Cleanliness is of the greatest importance in keeping lice and mites, fleas, and other insects under control, and should have the closest attention of every boy and girl. The poultry houses, roosts, dropping boards, brood coops, and all other places that the fowls or chickens occupy should be kept clean. An abundance of light and fresh air should also be provided. While these things can not be depended on to keep away lice and mites, yet they make it easier to determine when the pests are present and help to keep the fowls healthy and vigorous, making them better able to withstand and to fight off the attacks of lice and mites. Sick or diseased fowls are always the first victims of these parasites, which makes it important that the fowls be kept healthy.

FARMERS' BULLETINS SPECIALLY USEFUL FOR MEMBERS OF BOYS' AND GIRLS' POULTRY CLUBS.

1105. Care of Mature Fowls.
1106. Incubation of Hens' Eggs.
1107. Brood Coops and Appliances.
1108. Care of Baby Chicks.
1109. Preserving Eggs.
1111. Management of Growing Chicks.
1112. Culling for Eggs and Market.
1113. Poultry Houses.
1114. Common Poultry Diseases.
1115. Selection and Preparation of Fowls for Exhibition.
1116. Selection and Care of Poultry Breeding Stock.

OTHER FARMERS' BULLETINS ON POULTRY RAISING.

287. Poultry Management.
528. Hints to Poultry Raisers.
574. Poultry House Construction.
585. Natural and Artificial Incubation of Hens' Eggs.
624. Natural and Artificial Brooding of Chickens.
682. A Simple Trap Nest for Poultry.
656. The Community Egg Circle.
684. Squab Raising.
697. Duck Raising.
767. Goose Raising.
791. Turkey Raising.
801. Mites and Lice on Poultry.
806. Standard Varieties of Chickens: I. The American Class.
830. Shipping Eggs by Parcel Post.
849. Capons and Caponizing.
858. The Guinea Fowl.
889. Back-Yard Poultry Keeping.
898. Standard Varieties of Chickens: II. The Mediterranean and Continental Classes.
957. Important Poultry Diseases.
1040. Illustrated Poultry Primer.
1052. Standard Varieties of Chickens: III. The Asiatic, English, and French Classes.
1067. Feeding Hens for Egg Production.
Bureau of Chemistry Circular 61, revised, How to Kill and Bleed Market Poultry.

For copies of these bulletins or further information on poultry raising, write to your poultry-club leader, or to the Animal Husbandry Division, Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.